AMENDMENTS TO THE CLAIMS

1. **(ORIGINAL)** A hydration monitor comprising a temperature sensor for measuring a subject's core body temperature and a processor, the processor being arranged to accept measurements from the temperature sensor and calculate a hydration level in dependence on changes in the measured core body temperature.

2. **(ORIGINAL)** A hydration monitor as claimed in claim 1, comprising an earpiece and a remote unit, the temperature sensor being positioned in the earpiece for measuring the core body temperature via the subject's tympanic membrane.

3. **(ORIGINAL)** A hydration monitor as claimed in claim 2, wherein the temperature sensor comprises a thermopile.

4. **(CURRENTLY AMENDED)** A hydration monitor as claimed in ~~**claim 2 or 3**~~ **claim 2**, wherein the earpiece further comprises a transmitter, the remote unit including the processor, output means and a receiver, the earpiece being arranged to communicate measurements to the processor via the transmitter and receiver, the processor being arranged to provide an indication of the hydration level via the output means.

5. **(CURRENTLY AMENDED)** A hydration monitor as claimed in claim 4, wherein the transmitter and ~~**reciever**~~ **receiver** communicate wirelessly.

6. **(CURRENTLY AMENDED)** A hydration monitor as claimed in ~~**claim 4 or 5**~~ **claim 4**, wherein the transmitter and receiver are ~~**transcievers**~~ **tranceivers**.

7. **(CURRENTLY AMENDED)** A hydration monitor as claimed in ~~**any of claims 4 to 6**~~ **claim 4**, wherein the remote unit comprises a selected one of: a wristwatch, a personal

digital organiser, a mobile telephone, a personal computer or medical diagnostic and/or monitoring apparatus.

8. **(CURRENTLY AMENDED)** A hydration monitor as claimed in ~~**any of claims 4 to 7**~~ **claim 4**, wherein the output means includes one or more of a display and a speaker.

9. **(CURRENTLY AMENDED)** A hydration monitor as claimed in ~~**any preceding claim**~~ **claim 1**, further comprising a memory for storing hydration level and/or core body temperature over time.

10. **(CURRENTLY AMENDED)** A hydration monitor as claimed in ~~**any preceding claim**~~ **claim 1**, wherein the processor is arranged to determine a hydration level by the following formula: [(core body temperature current - core body temperature normal) x subject's weight] / (factor of ambient compensation x 100).

11. **(ORIGINAL)** A hydration monitor as claimed in claim 10, wherein the factor of ambient compensation is between 0.1 and 0.23 and is determined in dependence on the temperature of the environment surrounding the subject.

12. **(CURRENTLY AMENDED)** A hydration monitor as claimed in ~~**any preceding claim**~~ **claim 1** arranged to operate repeatedly at predetermined time intervals.

13. **(CURRENTLY AMENDED)** A hydration monitor as claimed in ~~**any preceding claim**~~ **claim 1**, wherein the processor is arranged to generate an alarm upon determination of a hydration level below a predetermined level.

14. **(CURRENTLY AMENDED)** A method of measuring hydration of a subject comprising the steps of:

a. measuring an initial core body temperature of the subject;

b. measuring a subsequent current core body temperature of the subject;

c. subtracting the initial core body temperature from the subsequent core body temperature;

d. multiplying by the subject's weight; and,

e. dividing by a factor of ambient compensation.

15. **(ORIGINAL)** A method as claimed in claim 14, wherein the measurements are taken from the subject's tympanic membrane.

16.-17. **(CANCELED)**

18. **(NEW)** A computer program for measuring hydration of a subject encoded on a computer readable medium and including:

(a) computer code means for obtaining an initial core body temperature of the subject;

(b) computer code means for obtaining a subsequent current core body temperature of the subject;

(c) computer code means for subtracting the initial core body temperature from the subsequent core body temperature;

(d) computer code means for multiplying by the subject's weight;

(e) computer code means dividing by a factor of ambient compensation; and,

(f) computer code means for outputting an indicator of hydration of the subject in dependence on the results of operations (a)-(e).